# Sai Vegasena

**Website:** *svegas18.me* **Email:** *svv232@nyu.edu* **Github:** *github.com/svv232*

## Experience

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**Security Engineering Intern at Trail of Bits** 6/18 - Present
Integrated just in time LLVM lifting with remill allowing klee instrumentation/symbolic execution on x86 machine code
**Security Intern at MWR Infosecurity an F-Secure Company** 5/18 - 8/18
Conducted application and network assessments on client code and published a blog-post on coverage guided fuzzing.
**OSIRIS Lab Researcher\NYUSEC CTF Team Member** 12/16 - Present
Participate in the cybersecurity research lab and NYU CTF Team. Currently help run CSAW, HSF/CSAW RED.
**CSAW 2017/2018:** Organizer and Problem Writer **HSF 2017**: Problem Writer **CSAW RED 2018:** Problem Writer

## Projects

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**trailofbits/klee** 7/18 - Present
Adding syscall emulation and a custom runtime for remill lifted functions to klee's symbolic execution engine
**osiris/vasilisk** 7/18 - Present
Independent study with Brendan Dolan Gavitt for fuzzing v8 with grammar and mutation based techniques
**Kleenex** 7/18 - 8/18
C++ wrapper around KLEE and AFL for intelligent, coverage guided fuzzing. Developed for research at MWR.
**1nsanity** 4/18 - 8/18
LLVM pass that obfuscates against symbolic execution
**Horus** 1/25 - Present
Pluggable framework that queries and puts "the internet" into a gigantic DB; finds dangling domains and publicly facing docker registries. Bug Bounties on 2 Alexa top 1000 domains and reported bounties to 15 large corporations.
**PiBrain Assistant** 11/17 - 1/18
Seq2Seq implementation using tensorflow and neural machine translation to build a cost effective assistant

## Technologies/Skills

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**Binary Exploitation:** Binaryninja, KLEE, AFL, IDA, Angr, Pwntools, Pwndbg, GDB, Manticore, Apktool, Windbg
**Web:** Burp Suite, Kali Linux, Nessus, Metasploit, SQLmap, Heroku, Flask, MySQL/SQLAlchemy, Jekyll, Git
**ML:** Tensorflow, Openai API **Infra:** Docker **Creative:** Processing, Particles.js

## Education

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**New York University**; B.S in Computer Science 2016 - 2020 (expected)

## Languages

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C C++ Python LLVM Rust Go Bash HTML SQL CSS JavaScript x86 MIPS